

# The Ballarat Naturalist

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## September 6th 2024 Guest Speaker Report *The Moorabool River*

Our guest Speaker, Cameron Steele, is a founding member and coordinator with the community group PALM - People for a Living Moorabool.

Website: [Home \(mooraboolriver.org\)](http://mooraboolriver.org)

A visit to this website is recommended.

Having been our Guest speaker 12 years ago, Cameron returned to update and refresh us in the current context.

His address informed us about the degradations of the past and current and future challenges for the Moorabool River. It was a really inspirational story, too, about how a community group could harness technology and internet available resources to make impressive discoveries, make submissions to government to inform and shape policy, and work cooperatively with all stake holders while striving to revive and sustain this wonderful watercourse and its tributaries.

PALM was formed nearly two decades ago to strive for better flows for one of the state's most stressed rivers, the Moorabool, partly in response to the challenges of the millennium drought, with a "Living River" focus. Its mission is to ensure a living river for its entire length, ensuring environmental flows and with a focus on unity among stakeholders, understanding all interests must be considered, and be seen to be considered. PALM is one of the members of the Concerned Waterways Alliance formed by advocacy groups across southern Victoria.

Giving perspective on water and lands use, he explained that almond production in the Murray regions uses 1.5 times that used by the entire Melbourne metropolitan area: just one crop.

The Moorabool River provides domestic supply to both Ballarat and Geelong. The Barwon, into which the Moorabool flows, has 3 times the natural flow of the Moorabool, but its principal water storage dam, the West Barwon Reservoir is just one third the size of the Lal Lal Reservoir on the Moorabool river. Its management involves two catchment authorities, and provides two thirds of its volume to

Ballarat and one third to Geelong.

Climate changes with more erratic weather conditions is a huge underlying challenge, as well as the historical and contemporary challenges of local human actions: The natural flow of 90 ML per day at the Batesford gauge, has been reduced to 10 ML while 2023 had the driest two months in over 100 years of rainfall records. Changing land use practices are a challenge in addition to global changes in weather patterns. Historically, land clearing in the catchment has highly modified the country, increasing the speed of runoff and reducing water retention in the land, and damming and diverting water has reduced flows by 90%, one of the highest figures for any Australian river.

Management of the river sits within the Central and Gippsland Sustainable Water Strategy, which has a 15 year term, and since introduced, with consideration of sustainable flows for the future, 6.5 GL has been promised to the West Moorabool from the Lal Lal reservoir, 10% of its capacity, with 700 ML guaranteed into the East Moorabool as environmental and cultural flows in the desiccated eastern valley. There were a number of other significant actions named in strategy.

An example was given.

In consultation with the Wautharung traditional owners, attention was given to a large drying wetland near Durdiwarrah. This area had known kitchen middens, which were testimony to the area being a former source of abundant food resources. For a long time it has been a desiccated and silent area - no frog calls, non-existent transitory or permanent bird life. Since then a recent trial pumping via a channel has been undertaken in order to re-flood the wetland, with 40 ML, and has transformed the area from silence to a cacophony of sound, birds returning, frogs croaking: a wonderful result for the advocacy of the community groups including the traditional owners.

Farm dams within the Moorabool River system were then explained. The upper Moorabool has arguably the highest concentration of farm dams in Victorian river systems, but the prevailing assumption state wide was that the volume of water involved was reducing. However, the upper Moorabool valley was not "on trend". Large numbers of dams have been expanded and added, and PALM investigations revealed that expected dam



licensing through the catchment agency was not occurring, and was not a function of water holding in small farm dams (Notwithstanding, it has been shown that water capture in dams can extend the effect of droughts, and with 23% of run-off in the Moorabool River catchment being captured in dams, the drought effect extends into the 3rd or 4th year before the river gets benefit.)

It became clear that there was conflict with observed reality and formal DEECA advice, that the state wide dam increase was only 0.3% per annum, with case studies in Gippsland, the Otway and Woollen Creek on the Moorabool River. Calculations showed the Moorabool valley had one of the highest concentration of dams in the state.

So attention was given to the use of Google Earth to examine changes in catchment dam development over time, and some remarkable examples were demonstrated. Using the slider functionality, changes over time are convincingly shown, and the transformation of small dams into huge ones was demonstrated on the slide show (so a great pity that the overhead projector failed on this occasion). A great deal of time was devoted by volunteers to examining dam size changes. Dams affecting watercourses must be licensed. As only 3 new dams had been officially licensed in the time period, the surprising finding was that more than 200 new and expanded dams were visible. A study in the Australian Journal of Water Resources gave a methodology to calculate the volume of water held (with an error rate of plus or minus 5%). 218 dams thus measured (30 more have since been discovered) showed that nearly 1500ML was being withheld from flowing into the Moorabool, that is, more than the environmental flows being returned in the east. Matching against available DEECA databases, which clearly show watercourses as a red line, 80 new unlicensed dams were demonstrably on watercourses.

Analysis of the reasons for all these new dams showed unexpected “culprits”: changes due to large wind farm construction, and changes in pine plantations prevalent in the area. So what had happened?

Windfarm regulations require material to construct the hard stand on which the towers themselves must be placed: and also mandate that the material for these super stable foundations must be obtained on site/adjacent to the development. So in effect, many large new visible “dams” could be claimed to be quarries, not intentional dams. However the effect is the same: water is collected and retained

instead of reaching the river. Several examples were shown from the aerial perspective. A property which formerly had a 20ML dam has in this manner increased tenfold in volume. The practice of “caboosing” creating “fortuitous” dams along watercourses was demonstrated, as material for the hard stand was gouged out, and also water was being retained in long trenches along roads. The conclusion was unequivocal, wind farms were responsible for a large increase in water withheld from the river.

Turning to pine plantations: many were established at a time when significant tax advantages were provided, but legislative and derived benefits changed over time. As production declined due to reduced profitability, many owners (sometimes new owners) increased dam sizes because water availability becomes a key factor in the value of land whose conjectured future use could be agricultural, horticultural or even “lifestyle”. So adding capacity in water storage could be seen to lead to significant land values increases. Once again, changes over the last ten years or so were clearly demonstrated using Google Earth functionality. This was demonstrated in several examples, with one particularly striking example of the expansion of one dam on a large holding by 1,000%. Increased evaporation loss also is another loss to the environment as surface area increases.

Community advocacy for (now) relatively low gains in environmental flows, and informed land use management has delivered a measurable benefit, and it is particularly demoralising to see these being rendered less significant by huge land use changes, with opportunistic and incidental increase of dams on watercourses. The definition of watercourse sometimes comes into play in defence of dam size increases: some claims have been made that dams are placed on land where the size of the “catchment” is less than the formal definition, while the cumulative effect on several adjacent streams does, and another map-based example was shown of a series of dams on a wider catchment of many streams which had been placed not 50 metres from the Moorabool.

PALM has produced a report - “Damned Future of the Moorabool River”.

Southern Rural Water has been informed by this, as it became apparent that official monitoring was inadequate and/or incomplete. A recent ABC production detailing the cumulative changes described above has drawn on this information. The beneficial result is that the methodology of PALM and its affiliates has become the foundation for methodologies for more effective



management and monitoring, and will be put to use for management authorities for the Moorabool and Maribyrnong Rivers. It is clear that policy changes must be made to monitoring, for such changes are likely across Victoria.

Turning to the lower course of the Moorabool, the huge Batesford Quarry (for primarily cement production) has had a huge impact on its flow over more than a century. Old maps from 1839 show the original watercourse, which was subsequently extensively modified for the quarry expansion. In the 1930's, a river channel was concreted as an antidote to water loss into the deepening quarry. Its deterioration over time has had a profound impact on both the flow of the river and its wildlife. Deep pools have been created by many factors, including erosion in times of flood and fish migrations upstream get “caught” in these pools. As they dry out there are huge fish losses. In addition, Geelong is expanding west at a fast rate, with both urban and semi-urban developments, which will also have a future impact which must be monitored. A consultative report is soon to be released which will be of great interest.

In concluding remarks, Cameron drew our attention to the power of data: inconsistencies in official reports and the lived experience of the community, demanded explanations. The collaboration of volunteer investigators with academics and formal government agencies, using online resources, has given a powerful example and methodology. Using Google Earth, and interrogating available governmental repositories, communities making partnerships with government agencies, show cross-agency cooperation is necessary as we look to the future.

Report by Elva Bird



## Making Observations at Clarkesdale

Our September field trip combined an iNaturalist information session with walks in Clarkesdale Bird Sanctuary, and resulted in a record number of iNaturalist observers and observations.

We started with the iNaturalist session. Graeme showed his computer via the projector, and screened a couple of short videos on how to create an observation on a phone and on the website. Information on how to combine several photos into one observation, and to add notes to multiple observations at once, was helpful for some more experienced iNatters. Graeme set up a different scanner that allowed his phone to be seen on the big screen and created an observation of an acacia he had photographed before the session.

We then looked briefly at the range of FNCB Projects that Bill Elder created for various types of organisms (e.g. Orchids, Birds of Ballarat) and various places (e.g. Mullawallah Wetland, Sparrow Ground). We looked at the journal post with all the observations made on our last field trip and compared “Research Grade” and “Needs ID” observations. One of the observations needing ID was converted to research grade by agreeing with the current identification.

After this brief overview it was time for morning tea. During the break a few interesting organisms were found. Some Fireblight Leaf Beetle larvae, *Peltoschema orphana*, were chomping their way through the leaves of an *Acacia mearnsii*. Andrew spotted a *Eurymeloides pulchra* Gum Leafhopper, which Vireya had been looking for but didn't see. However she did find several species of caterpillars in eucalypts around the building, including *Peritropha oligodrachma* which builds itself a shelter out of grass on the surface of a leaf.

Then it was time to start the actual field trip. Emily led us on a walk of the circuit through the Bird Paddock. Our first orchids were some Trim Greenhoods, *Pterostylis concinna*, which we learnt usually grow under acacias.

Birds seen or heard included Yellow-faced Honeyeater, Spotted and Striated Pardalotes, Wedge-tailed Eagle, Golden Whistler, White - Throated Tree creeper, Crimson Rosella, Grey Shrikethrush, Brown Thornbill, Eastern Yellow Robin, New Holland Honeyeater, Long Billed Corella, Rufus Whistler, White-naped Honeyeater, and a Sacred Kingfisher (only heard). Australasian Swamphen, Grey Teal

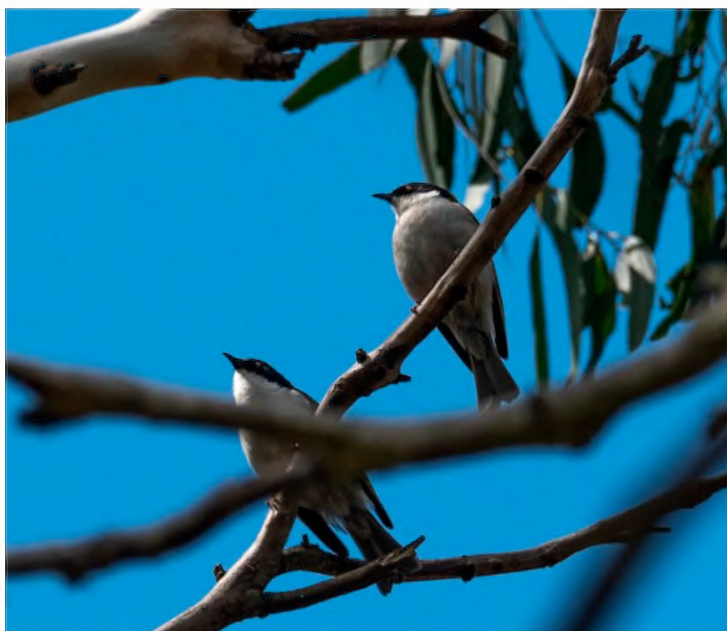




Long –billed Corella



Eastern Yellow Robin



White-naped  
Honeyeaters

and Pacific Black Ducks were seen from the bird-hide. The remains of one unfortunate Long-billed Corella were perhaps evidence of another bird; a Powerful Owl or a Goshawk were suggested as the predator responsible. Emily pointed out some Candlesnuff Fungus, *Xylaria hypoxylon*, growing from a log. The nearest place this fungus has been seen is in the Wombat Forest. A patch of Lowland Bird-orchids had buds. Plants flowering included Austral Bears Ear, Early Nancy, Yellow Star and Tiny Star, and a Native Buttercup which was attracting a few native insects— page 8



As we crossed the culvert over Springdallah Creek we saw many dragonflies (probably Tau emerald), but none settled to be photographed or identified.

We were ready for lunch by the time we completed the circuit and returned to the Clare Miller Centre. Around the Centre we saw more birds including a family of Superb Fairywrens, and Elspeth spotted a gathering of shiny metallic *Altica corrusca* beetles amongst the Bidgee-widgee.

Refreshed and reinvigorated we took a short drive to the Orchid Block. Emily told us some of the history of this section of the sanctuary. We were standing near where a house previously stood, where there has not been much regeneration of natural bush, but some garden plants have remained. We were at a corner of a former pine plantation. The pines were removed 8 years ago, and the side closer to the Stringybark forest is gradually regenerating. There is less natural regeneration on the far side, but students have collected seed from the forest to disperse there.

Forty species of orchid have been recorded at the Orchid Block, and a number of uncommon indigenous wattles. Orchid species observed on the day included Nodding Greenhood *Pterostylis nutans*, Tiny Greenhood *P. parviflora* (leaves only), Dwarf Greenhood *P. nana*, budding Waxlips *Glossodia major*, and a lovely patch of Mayfly orchids *Acianthus caudatus*. Observed acacias included Snake Wattle *Acacia aculeatissima*, Ploughshare Wattle *A. gunnii*, Juniper Wattle *A. ulicifolia*, Woolly Wattle *A. lanigera*, and Ovens Wattle *A. pravissima*.





Dwarf Greenhood



Mayfly orchid

The golden bush-pea, *Pultenaea gunnii*, was beginning to flower. Small grasstrees had buds forming. Hardenbergia, Pink bells and Common Beard-heath were in flower. Budding Creamy Candles and Blue Stars were seen. Birds seen here included Australian Shelducks flying over, and Laughing Kookaburras. By about 3:30 rain began falling so we finished our walk.

Back at the Environment Centre people were able to ask for assistance with creating observations or any other iNaturalist issues, but it seemed everyone knew what they needed to know, so we packed up and departed.

During and after the field trip 11 of the attendees uploaded a total of 145 observations to iNaturalist. Well done everyone! The observations are of 80 different species, with some organisms still to be identified. About 8 of the observations are identified to levels higher than genus, so our number of species could increase over time. To see them all, you can find a link in the relevant journal post on our main iNat project.

<https://www.inaturalist.org/projects/fncb-inaturalist>

Thanks to our iNaturalist helpers, Graeme and Vireya, and to Emily for once again showing us the wonders of Clarksdale Bird Sanctuary.

Report by Vireya Jacquard, Images Angela A, Carol H & Val H



golden bush-pea



White Punk



Southern Cinnabar Polypore



## **iNaturalist and Why we need biodiversity data**

As climate changes and habitat destruction occurs, over 1 million species face the threat of extinction this century. There is an urgent need for robust biodiversity data to know which areas to protect and how to manage threats.

iNaturalist's mission is to connect people to nature and advance biodiversity science and conservation

The Global Biodiversity Information Facility (GBIF) archives all licensed Research Grade iNaturalist observations weekly alongside over 100,000 other data sets from nearly 3,000 publishers

How to increase Your impact-

- Loading observations

- Identifying observations

- Giving permission for Open Licensing

### Observations

#### How to take better photos

Fill the frame- get closer or crop before uploading. Focus clearly.

What to photograph?

Fungi- top, side, underside

Plants- flowers, fruit, leaves, leaf underside, buds, whole plant

#### Fill a gap on the map

- explore maps of existing observations

- find a safe accessible place with few observations and make observations there- as many different species as possible

- look for the overlooked eg spiders, insects

### Identifying on iNaturalist

Follow these steps

- Use the identifying tool on the website

- Choose a place

- Add identifications

- Check your notifications are on the website

### Building Expertise

Start with broad, correct labels you are confident about – ie birds, plants fungi

Learn from the more specific identifications that follow (ask questions)

Don't agree with other identifications without investigation

Check other resources recommended by people in the community

## **iNaturalist continued-**

### Open licensing- why it matters

Licenses tell how you want your data used- or not

The Global Diversity Information Facility only accepts data with specific open licenses

More open data= more accessible for science

## **A Masked Lapwing tale**

For the last 3-4 weeks, 2 Lapwings have been harassing us while they nested on the metal roof of my neighbour's carport, which I can view from my kitchen window. On 11<sup>th</sup> Sept I looked out and noticed two little heads moving along the roof as well as the parents. One of the chicks moved to the edge and then fell off. Mother stared over for a short while, then flew down to join her chick. I had a quick look and grabbed the camera too. A few hours later I looked out again and happily noticed both parents and four little chicks moving around in my back yard (the adjoining fence is absent at the moment). I watched them on and off through the afternoon and also alerted neighbour Chris to this happy event. Initially both parents were sheltering the chicks when they needed a rest. Other times all four fitted under one parent's feathers. Then the other parent, I assume the male, flew back onto the roof acting as a sentry or moved about.

The next day I had hoped to see them again- they were heard early. However they disappeared. Speaking to my other neighbour, he thought he saw them that day near a creek area about a block away, with 2 chicks wading in a puddle. I hope the other two were hiding in the grass!

Val Hocking





**Excerpts from Club Meeting Minutes 7.30pm, Sept 6th 2024.**  
**Held in person and via Zoom**

**Opening and Apologies**

Attendance: Acting Chair Neville Oddie welcomed 19 members and one visitor attending in person, along with ten members attending via Zoom.

Apologies: John Petheram,.Max Thompson.

**Guest Speaker:** Despite technical difficulties with the projector in the Fed. Uni. building, Cameron Steele from *People for a Living Moorabool* (PALM) and the *Concerned Waterways Alliance* presented “An update on what has been regarded as Victoria’s most-stressed river - the Moorabool” showcasing the amazing efforts of volunteers to gather data to inform evidence-based advocacy for increased water allocations for the River. Their data on the reductions in inputs to the River due to illegal dam construction/enlargement was particularly compelling and concerning.

**Business Arising from Correspondence:**

- Emily provided a brief update on FNCB’s involvement in the Ballarat Seniors Festival Expo on Tuesday 1<sup>st</sup> October from 10am–2pm at Mercure Convention Centre, 613 Main Rd, Ballarat. She’ll contact volunteers to ensure set-up, pack up and stall -manning for four hours is covered. Various resources for display/ sale/ handing-out will be tracked down.

- Emily reported on the number of hours volunteered by members between July 1, 2023 and June 30, 2024 that were submitted to DEECA this month for inclusion in their annual Volunteering Naturally Report: an estimated 3,672 hours!

- Great Southern BioBlitz (Sep. 20-23): Vireya has applied for an Activity Permit from Ballarat City Council for us to hold a Moth Night at Council’s Sparrow Ground Reserve on Fri 20<sup>th</sup> Sept. or another night during BioBlitz if weather dictates. More details to come.

**Reports:**

Treasurer's Report

Opening bal. as at Aug. 2, 2024: \$8,952.06

Income \$2,000.00

Expenses: \$294.29

Closing bal.: \$10,657.77

Carried.

Discovering Ballarat's Bushland, Second Edition: Carol provided an update, letting us know that a sixth proof had been sent to her and Roger for proof-reading. Hopefully it will be error-free and thus constitute the final version so a publishing date can be booked-in.

### **General Business**

Saturday 7<sup>th</sup> September field trip, “iNaturalist training and bird/wildflower walk, Clarksdale Bird Sanctuary” to be led by Emily Noble, Vireya Jacquard and Graeme Lunt.

Early preparations for the SEANA Spring Camp to be hosted by our Club in October 2025: choose the dates. The option chosen by members at the meeting was the option recommended by the Committee (based on other large events to be held in Ballarat in Oct. 2025, school holidays, best wildflower time and availability of preferred venues for the Friday and Saturday night): to run the camp from **Friday 17<sup>th</sup> October to Sunday 19<sup>th</sup> October** in the afternoon. Val will book the Ballarat Golf Club for Saturday 18<sup>th</sup> October 2025 ASAP. We're also looking for members interested in helping organise the Camp to join a sub-committee. Please contact Emily if you'd like to be involved in any way.

-Neville led a discussion about Trust for Nature's donation appeal for a four-year project to rehabilitate the ex-pine plantation block at Clarksdale Bird Sanctuary, with \$110,000 being sought from the community by Sept. 16<sup>th</sup> to unlock \$220,000 from the State Government's BushBank Program. Neville will try to find out ASAP if the State Government will match any funds raised \$2.00 for every \$1.00 or only provide \$2.00 for every \$1.00 if \$110,000 is reached.

**Motion:** That FNCB pledge to donate \$500 to this Trust for Nature project on the proviso that the Appeal target is met & State Government funds needed for the project are thus also secured.

**Moved:** K. Elder                      **Seconded:** J. Gregurke    **Carried.**

BirdLife Ballarat will be holding a photographic exhibition from October 1<sup>st</sup>-22<sup>nd</sup> focusing on photos of birds taken by their members in the Ballarat region. Venue: Barkly Square, 25-39 Barkly St, Ballarat East. Times: 9am-5pm Mon-Fri and 10am-2pm Sat. Free entry

**Show & Tell/ Field Reports:** Nil.

**Next Meeting:** “Parks Victoria priorities and activities in our region” to be presented by Siobhan Rogan, Parks Victoria.

Friday 4<sup>th</sup> October 2024, 7.30pm

**Meeting closed:** 9.22pm.



**SEANA Marysville 25th –27th Oct 2024**

**SEANA Ballarat 17-19th October 2025** We hope many of our members will be able to assist us on that weekend when we will be inviting up to 100 Field Naturalists to our area

Friends of Canadian Corridor Annual wildflower walk in Woowookarung forest is proposed for between Oct 20th and 27th

**Birdlife Ballarat's Annual bird walk** for members of the public at Lake Wendouree. . Anyone is welcome to meet with them on Sun 27<sup>th</sup> October at 9am at Pipers on Wendouree Parade.

Also visit their photographic exhibition as per the Minutes

**Our Next Club Meeting Friday 4th Oct at 7.30 pm**

Guest Speaker Siobhan Rogan from Parks Victoria. "Parks Victoria priorities and activities in the region". Hybrid meeting

**We don't yet have a volunteer to write-up this presentation. Please contact Emily.**

**Sunday 6th October field trip- 9.30am – 4pm: "Enfield State Park significant species search"** to be led by Emily Noble. Meet in the Fed. Uni. carpark on the corner of Gillies St and Gregory St for carpooling/ convoy and departure at 9.30am sharp OR at Enfield State Park possibly at the Little Hard Hills Hotel (yet to be confirmed).

We will head out to several sites within a proposed planned burn site in Enfield SP to search for and record the location of significant species to inform the management of the planned burn. We aim to return to the Fed Uni Building by about 4pm.

Bring the device you use for iNaturalist if portable and wear weather-appropriate clothes and clean, sturdy shoes. Bring water, small mirror, camera, magnifying lens, binoculars, field guides, morning tea, lunch, thermos and camp chair.

**A volunteer is still needed to write up this field trip.**

## **Meetings and Excursions**

**Fri Oct 4th** Siobhan Rogan from Parks Victoria. “Parks Victoria priorities and activities in the region”.

**Sun Oct 6th** Orchid and Enfield Grevillea hunt in Enfield State Park, Enfield

### ***Future events***

**Fri Nov 1st** Stella Bedggood Memorial Lecture  
Speaker Jane Rusden– Nature journalling

**Sun Nov 3rd** Lilwarre/ Stringybark, Scarsdale Bush fire  
regeneration, wildflowers, moths– Afternoon and evening event

*Volunteers needed to write up these events for our newsletter.*

**Next Committee meeting** Tues Oct 22nd at 7.30 pm by Zoom

**Club meetings are normally held on 1st Friday of the month at  
7.30 pm at the Federation Uni Gillies St Campus (corner of  
Gillies and Gregory Sts, Lake Wendouree),  
Committee**

**Website:** <http://fieldnatballarat.wordpress.com>

**Club email:** [ballaratfnc@gmail.com](mailto:ballaratfnc@gmail.com)

**Meetings** - in person and may continue to be held via Zoom.  
Members will be kept informed of arrangements each month.

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